

BULBS

THE NEWSLETTER OF THE INTERNATIONAL BULB SOCIETY

Formerly *The Underground*

Volume 1, No. 1

Spring ~ Summer 1999

President Turley Outlines New Directions for IBS



Hello bulbophiles! It is my privilege and honor of being your President of the International Bulb Society. I wish to thank the past President and Board for placing their confidence in me. I accept the position not in trepidation or anxiety, but in knowledge that among IBS are some very wonderful individuals who share a love of bulbous plants, and want to share and extend that appreciation to others in an international community.

We owe past President Charles Hardman a deep appreciation and debt of gratitude for his tenacious leadership in steering IBS through some difficult times. Thankfully, with that firm foundation laid, it allows me to steer a different management style. Our sincere appreciation goes to retiring board members for their long labor of love and dedication to IBS.

I think now would be appropriate to introduce myself, as I am sure many are curious just who this guy is that is thrust into the leadership role of IBS. My full

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IBS Conservation Ctte. Launched, Coordinates Nerine Rescue

The International Bulb Society has created a new committee concerned with issues relating to the conservation and preservation of geophytic plants. The committee, chaired by IBS VP Jim Shields, has been very active in the first six months of its existence, forging links with other organizations and exploring cooperation, developing educational materials both for the membership and for the public at large, and in one, exceptional instance, has helped coordinate the rescue of a collection of rare, state-of-the-art *Nerine* cultivars which were at risk of being lost.

Conservation and Preservation

Conservation and preservation are two aspects of the same problem: how to protect the diversity of nature and ensure the survival of endangered plants and animals. As it is being viewed by the committee, conservation deals with efforts directed at protecting a particular species or variety, and preservation deals with efforts directed at preserving entire habitats and ecologies. Both types of effort are valuable and needed, and in the modest ways available the committee is seeking ways to support these efforts wherever possible.

"We are neither the largest organization nor the richest," said Dr. Shields. "What we can do will be limited to educational work,

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Searching for (Really) Hardy Bulbs

by Jim Shields

I have begun planting bulbs that I had never heard of just a few years ago. I blame this on the acquaintances I've made in the IBS Bulb Forum on line. I have half a dozen different types of *Fritillaria* planted in various beds outdoors now, even though I am not at all sure which, if any, of them will be hardy here. There are *Colchicum* of as many different types planted too, with more hope of survival in their cases. Much more speculative plantings include a few *Triteleia laxa*, *Calochortus* 'Golden Orb', *Gladiolus communis byzantinus*, and *Freesia laxa alba*. These are in addition to more usual sorts such as *Narcissus*, *Scilla*, *Chionodoxa*, and the like.

All of this raises the question, "What is a hardy bulb?" An operational definition is a bulb that survives, blooms, and grows while planted in the ground all year-round where you live. Let's consider the first three points mentioned.

What Do the Books Say

Most of the specialist books on bulbs give conservative hardiness

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FROM THE EDITOR'S DESK

Welcome to the first issue of *Bulbs: The Newsletter of the International Bulb Society*. With this issue we are beginning a process of transformation which will ultimately place in your hands a full-color quarterly magazine which will appeal to anyone with a horticultural interest in hardy and tender geophytic plants. It will also carry news of the activities of the IBS, including chapter events, Seed Exchange offerings, items of interest from the IBS web site and the Internet-based Bulb Forum, reports from the IBS Conservation Committee, and much more.

This new newsletter format coincides with an (almost) entirely new Board of Directors for the Society. As President Robert Turley says in his introductory message, we owe a great debt of gratitude to the retiring Board for all their hard work over the years in seeing the IBS through some difficult times, and ensuring the survival of a vital, world-wide organization with deep historical roots in the worlds of botany and horticulture. I am personally indebted to retiring editor Dr. Michael Vassar, who has passed on a record of achievement in *Herbertia* and the other IBS publications which I will work hard to meet.

The new editorial focus for *Bulbs* will include:

- Articles dealing with practical horticultural techniques;
- First-person accounts of plant exploration, experimentation, and cultivation;
- Interviews with leading growers, breeders, and researchers;
- In-depth discussion of par-

ticular genera, species, or types of garden or cultivation;

- Ecology, floral communities, conservation, biodiversity, and similar topics.

It will also include a mix of bulb-related events, Society and Chapter news, shows, etc. Advertising will help support the publication and provide vendor sources for the readership.

Herbertia will continue to be the scientific journal of the Society. Fellow Board member Professor Alan Meerow of the University of Florida joins me as Scientific Editor for *Herbertia*. He is leading our efforts to make *Herbertia* a more rigorous journal, fully peer-reviewed and meeting the highest academic standards for scholarship. Between the two publications, *Bulbs* and *Herbertia*, we hope to provide useful, interesting, and (even) exciting information to all the communities-of-interest who comprise the International Bulb Society.

I look forward to your comments, suggestions, criticism and complaints over the coming years as I direct the work of creating this new publication. As the IBS is an all-volunteer organization, I also welcome the assistance of any member interested in our publishing work.

Phillip Allen, Editor



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born August 10, 1948 in Pineville, Rapides Parish, Louisiana. Pineville is located on the Red River across from its larger sister city of Alexandria. I grew up in a rural community of Center Point, Avoyelles Parish, Louisiana. It is here I developed my love of the outdoors and spent my springs and summers cultivating a garden and tending to the poultry and livestock on our small 5 acres. It was in my Junior High years that I decided upon a career in Horticulture.

I entered Louisiana Tech University in the fall of 1966. These were some of the best learning years of my life. Coming from rural Louisiana, college life was a great experience! It was here I learned to love libraries. Any book or journal of interest to me has my eye prints across its pages. I had the privilege, after graduation, of working in the Agronomy-Horticulture Department at Louisiana Tech almost 5 years, before I left and joined the Louisiana Cooperative Extension Service with Southern University in its 1890 Small Farm Program. After 10 years with Southern University, I worked in the commercial ornamental nursery industry for 2 years, which was interesting and good practical experience.

My family and I left Louisiana in 1987 when I joined the Texas A&M Agriculture Extension Service as an Extension Horticulturist in Edinburg, Hidalgo County, Texas, in the Lower Rio Grande Valley. Our home was only 10 miles from the Rio Grande, the border with Mexico. This was a very exciting time and place in my career. The area is a subtropical desert. Cacti abound and everything native either stuck you or stung you! The many flood-irrigated fields of citrus, vegetables and cotton are still very vivid in my mind. I became a good friend to a young horticulturist from Reynosa, Mexico. With his friendship, I was able to travel through Mexico with him as a personal guide. I was able to experience Mexico in a way that I would never have, had it not been for his friendship. The area is noted for its Rainlilies and I was able to experience first hand these little marvels in my front yard.

After 7 years living along the Rio

Grande we relocated in December of 1993 to southwest Florida near Ft. Myers. Here I worked for the Florida Cooperative Extension Service with the University of Florida as a Multi-County Citrus Agent. At our home in the small city of LaBelle, I was able to see *Crinum americanum*, several *Hymenocallis*, and *Iris hexagona* (one of the 5 species that make up the Louisiana Iris group). I found a lone colony of what must be a very southern variant of *Zephyranthes atamasco* in a citrus grove near Immokalee, and registered with the American Iris Society a very nice white selection of *Iris hexagona* found by a neighbor and friend in LaBelle. It was while living in LaBelle that I started the International Bulb Society's Internet-based Bulb Robin (later the Bulb Forum) with a good friend, Jim Shields in Westfield, Indiana.

June of 1997, I am in Lake Charles, Calcasieu Parish, Louisiana! In 10 years we have come full circle. It is nice to be home! I am working for the Louisiana Cooperative Extension Service with the Louisiana State University as an Extension Horticulturist. My wife, Sandra, is employed as the Municipal Clerk for the town of Iowa, Louisiana. Sandra, our son Michael and I have been blessed and our lives enriched by the experiences we have shared with our 10 years away. I think we are better for it, but it is good to be home!

Through my leadership and presence on the Bulb Forum, I was voted a seat on the Board of Directors of International Bulb Society. Now, I find myself in the chief bulbophile seat! So, what now? Here is a basic outline of goals:

A healthy society must be a growing society. Membership growth and expansion will be a major focus. Membership retention is the second component of expansion. Once you are a member, how do we keep you?

1. We will be encouraging and fostering IBS Chapters both local and regional:

a. Chapter development and affiliation guidelines will be established;

b. exhibition guidelines for shows will be implemented, and,

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c. development of judges' schools and training will be provided.

2. The International Bulb Society was originally founded as the American Amaryllis Society in 1933. Through the years the society has gone through some peculiar name changes. Fortunately, the society has come full circle and in this decade returned to its bulb roots with a name reflecting what it was, is and will be, the International Bulb Society. With this issue of the Newsletter you will notice a setting aside the name "Underground" for our Newsletter and giving birth to the name that reflects what we really are through and through: BULBS. The long-range plan is to have 4 full-color issues per year. This publication will include both hardy and non-hardy bulbs.

3. The journal *Herbertia* will remain basically the same with one issue per year.

4. The ability to pay by credit card to join or renew your membership and other pay services.

5. The Society will experiment with holding some of its Board Meetings via the Internet.

4: The society will continue to expand its services to its members, including:

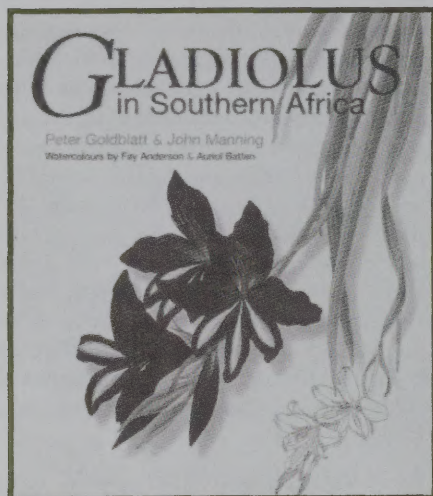
- Internet Bulb Forum
- IBS Web site at <http://www.bulbsociety.org>
- IBS Affiliated Chapters
- Seed Exchange (SX)
- Internet Forum Bulb and Perishable Seed Exchange (BX)
- and new and exciting information through its publications *Bulbs & Herbertia*.

We move forward with the new bulb century. If I may ever be of service to you, do not hesitate to contact me. My door is always open. Bien le bonjour de la Louisiane!

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John Bryan Reviews *Gladiolus in Southern Africa*



Gladiolus in Southern Africa, by Peter Goldblatt and John Manning, is a monumental work. The work is complete, beautifully augmented with drawings by Manning and illustrated with watercolors by Fay Anderson and Auriol Batten. It is not a small work, over 300 pages and 145 full color, full size 12" X 10" color plates.

Those who are familiar with Goldblatt's distinguished career will know how thorough he is. This work is an attempt to present a natural classification of the genus and to include all species that share an immediate, common ancestor with *Gladiolus*.

The previous major work dealing with the genus was in 1972 by G.J. Lewis, et. al. which recognized 103 species. Since that time 13 species of *Homoglossum*, *Anomalestia* and *Oenostachys* have been incorporated into *Gladiolus* as well as new species being recognized and described. Goldblatt and Manning recognize 163, when combined with 82 from tropical Africa and 10 from Eurasia, brings the total number to 255. The geographic range of *Gladiolus* is Africa, Europe, the Middle East and as far east as Afghanistan. By far the greater number are found in southern Africa, thus pointing out the great importance of this work.

The authors present a natural classification of *Gladiolus* in southern Africa recognizing seven sections and 27 series. This classification is well presented and will, without a doubt, be accepted as the one to use for the foreseeable future, but as the authors state, "Species are not immutable entities comprising morphologically identical individuals in uniform populations. Once this fact is recognized, the problem arises as to how different an individual or population have to be from others to qualify for inclusions in a different species." This is the question posed and answered in the chapter entitled Relationships, subgeneric classification, phylogeny and radiation.

That Goldblatt and Manning have found the answer to this most intriguing question is indicative of the depth of thought, and the sound reasoning exhibited throughout the work. As the authors state, "Not all morphological features are equally important in defining a species, those affected by environmental conditions such as plant size or leaf width are of limited value...Features which have a firm genetic basis are relatively insensitive to environmental influences, are much more valuable."

However, in their treatment of *G. permeabilis*, they divide it into two subspecies; subsp. *permeabilis*, with tepal apices acute or barely attenuate, flowers often shades of purple, mauve or greenish-brown and sweetly scented; and subsp. *edulis*, tepal apices long attenuate to tailed, flowers in shades of cream to white or gray, either scented or unscented. Where does one draw the line? The authors write, "One must always keep in mind that species are dynamic entities that have changed in the past and will change in the future and that speciation is a continuous and constantly changing process over geological time...we are witnessing all stages of speciation....This revision is our attempt at a snapshot in time of these events." With *G. permeabilis* was the line correctly drawn?

The authors write they have tried to be consistent and without a doubt they have. A great review of the genus is given under the heading History. While discussing Morphology, superb line drawings illustrate the

reproductive and vegetative organs, forms of corms, habit and leaf arrangement and cross-sections of leaves showing the main leaf types.

Another section covers Fruits and Seeds, and again the line drawings contribute much. Chromosome numbers are given of numerous species and in the chapter Ecology, "Growth Strategies" are discussed. The discussion of Fire and the Flowering Response is short, and unfortunately no mention is made of the effect of smoke on flowering and seed germination.

The chapter on Pollination is utterly fascinating, describing the six classes of pollinators used by the genus and the flower forms that attract each type. Here again the line drawings are superb showing flowers adapted for pollination by long-tongued flies, bees, moths, butterflies, sunbirds and beetles. The Geography of distribution of species is well illustrated by maps. It is indeed difficult to think of any points not thoroughly discussed. However, no mention was made of any naturally occurring interspecific hybrids, and I can not help but wonder if, with so many indigenous species, such does not occur.

In the main body of the book, each species is dealt with in a logical manner. While technical, the writing is easy to read, never bor-

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BOARD ESTABLISHES 3 FUNDS FOR MEMBER CONTRIBUTIONS

At its April 11, 1999 meeting, the IBS Board of Directors passed a motion creating three special funds to which members may donate: a Conservation Fund, to support the work of the IBS Conservation committee; a Research Fund, to provide for grants in support of research in geophytic plants; and a Color Fund, to help support the cost of color printing in the Society's publications.

"This is what many other horticultural organizations do to fund special projects without drawing on the general fund," said IBS Treasurer Cathy Craig. "We believe that many of the members will feel these are important projects, and will want to make a special contribution."

The Research Fund has been modeled after the Cactus and Succulent Society of America's. Small grants will be made to independent researchers in areas of interest to the Society. A committee is being formed with Dr. Alan Meerow as chair, to develop guidelines for applicants and to review grant proposals.

"The single largest expense of the IBS is the cost of printing *Herbertia*," said Editor Phillip Allen, "and the single largest portion of that expense is color reproduction. It's also the single most popular aspect of our publications. The Color Fund will help offset those expenses, and could help delay any increase in membership fees."

New Plans for the Seed Exchange

Seed Exchange Director Shawn Pollard recently briefed the Board on his plans for expanding the Seed Exchange to two offerings per year beginning in 2000. The first offering in 1999 will be published in the Fall-Winter issue of *Bulbs*. He also invites any members interested in helping on the Seed Exchange to contact him directly at 1106 W. Del Rio Avenue, Alpine, TX 79830, (915) 837-2231.

Members who have seed to donate to the Exchange can also send it to him at the same address. Seed should be correctly named, cleaned as well as possible, and packed securely. Any details of the seeds' parentage or collection data should be forwarded with the seeds.

JOIN THE INTERNATIONAL BULB SOCIETY TODAY!

Name _____ Telephone (day) _____
 Street _____ Telephone (eve) _____
 City _____ State/Province/Prefecture _____
 Postal Code/Zip _____ Country _____
 E-Mail Address _____

Membership Rates

Inside the United States:

\$ 30 US per 1 year

\$ 55 US per 2 years

\$ 80 US per 3 years

Outside the United States:

\$ 40 US per 1 year

\$ 75 US per 2 years

\$ 110 US per 3 years

Please indicate: New membership _____ Renewal membership _____

Please add my additional gift for the Conservation Fund \$ _____

Research Fund \$ _____ Color Fund \$ _____

Donations are tax-deductible.

Dave Lehmler, Membership Director

550 IH-10 South - Suite #201 - Beaumont, TX 77707 - Email: IBSMEM@aol.com

Payment Method

Check _____ Credit Card _____

Master Card _____ VISA _____

Acct # _____

Expiration _____

Signature _____

TOTAL US\$ _____

IBS REGIONAL ORGANIZING INITIATIVE

Efforts have been underway worldwide to bring together IBS members in national, regional, or local chapters. The Australian Chapter has been in the forefront of this initiative, having been active since late 1998. In the United States, California is the farthest along in developing chapter organization, with Northern and Southern California Chapters coming together during this spring and summer. California has been given a great boost by the recent speaking tour of Rachel and Rod Saunders of Silverhill Seeds, Cape Town. Rachel is also South Africa's IBS representative. The Saunderson's speaking engagements in several California cities provided the opportunity for many area IBS members to get together for the first time, and more meetings and events for the rest of the year are being planned.

IBS Vice President Jim Shields is heading up the effort to recruit representatives for the Society. "Any IBS member interested in getting together with other members in her or his area can serve as a representative," Jim said during a recent interview, "and be the catalyst for a new chapter of IBS." He stressed that a representative would not be expected to handle everything involved in organizing a chapter. Assistance and support from the Board of Directors will be available all along the way. "Our experience so far has been that members are excited about the chance to meet fellow bulbophiles, share experiences, plants and seeds," Jim said. "Often all that's been necessary is for one person to be a contact for others members in their area."

Representatives have also been active in spreading the word about the International Bulb Society, speaking at horticultural and gardening society meetings, on the radio and television, distributing brochures, and other publicity and recruiting activities. "The opportunities a representative may have are quite varied," Shields added, "and a lot depends on the amount of time

the representative can spend on IBS work. Everyone's contribution is valuable, no matter how limited."

If you would like to join the ranks of IBS representatives, spreading the geophytic word to your city, state, region, or nation, please contact Jim Shields at 317-896-3925, by mail at P.O. Box 92, Westfield, IN 46074-0092, or email at jshields@indy.net. If you would like to share the fellowship of bulbs with other IBS members in your area, check out the following list for the representative nearest you. If there isn't one close enough to you, maybe you should be the newest IBS representative and help make things happen!

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sharing data and expertise, and mobilizing our membership when there is something we can each do individually. And our charter states, the committee exists to facilitate, on behalf of IBS as a whole, information and activities which support multi-generational preservation and conservation of geophytic plants."

In the area of cooperation with other organizations, the committee has been exploring contacts with the American Association of Botanical Gardens and Arboreta, the Biota of North America project, and other similar organizations.

The *Nerine* Rescue

The *Nerine* cultivar collection the IBS helped rescue was the life-work of Ed Zinkowsky, who died suddenly late last year. Zinkowsky had not made any provision for his collection in his estate, and no one in his family had any interest in the plants. Based on the opinion of a number of IBS members who knew Zinkowsky and his work, and effort was launched through the IBS on-line Bulb Forum to rescue the collection from destruction and to redistribute the plants to interested growers. IBS member Steven Vinisky bore the brunt of the work involved in negotiating with the executor of the Zinkowsky estate, as well as the work of moving the collection to his farm for its protection over the winter.

The cost of this rescue was supported by donations from interested and concerned members who participate in the Bulb Forum. The rescue had to be accomplished in a very short time, which didn't allow for a mailing to the entire membership. There is still time for those readers who are interested in *Nerine* cultivars (derived largely from *Nerine sarniensis*) and who would like to participate in this project to

receive a share of the plants by making a donation to the IBS Conservation Fund. Donors will receive at least one bulb per dollar donated. As soon as possible, send a check payable to IBS, with 'Conservation Fund-Nerine' written in the memo field, to IBS Treasurer Cathy Craig, 302 Calle Sonora, San Clemente, CA 92672.

A Brief Note on the History of Breeding in *Nerine sarniensis*

by Sir Peter Smithers

The history in cultivation of *Nerine sarniensis*, the 'Guernsey Lily', a native of South Africa, begins with a romantic story of a sailing ship in passage from Japan to England wrecked on the island of Guernsey in the early seventeenth century. Bulbs from the wreck, apparently picked up on the way, became naturalized in the island. This is probably a cock-and-bull story. However that may be, the serious breeding of *N. sarniensis* did not begin until the end of the nineteenth century when H.J.Elwes, one of the greatest plantmen and botanists of his time, became interested in the plant. He raised a number of seedlings, some of which still have merit. He was joined by several other hybridists including the distinguished London firm of bulb merchants, Barr and Sons.

After World War I Lionel de Rothschild of Exbury, arguably the most eminent gardener of the inter-war period, and breeder of Rhododendrons, Azaleas, Orchids and other plants, engaged upon a systematic *Nerine* breeding program building upon the results already achieved. This continued at Exbury until the late 1960's and very significant results were obtained far exceeding what had gone before. However it then was decided to abandon the growing of *Nerines* and the entire collection was dispersed. The Borde Hill Estate also raised a number of hybrids in the same period and one or two of significance were produced elsewhere in England.

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In New Zealand in the post-war period the numerous Harrison hybrids were based largely upon a single Exbury clone, 'Alice', now apparently lost to cultivation. The resulting plants are vigorous with long stems and large flower heads, though somewhat lacking in form and range of colors. Amongst them are several whites that exceeded in quality anything raised elsewhere up to that time.

I began breeding *Nerines* at Colebrook House, Winchester in 1960 but departed for Strasbourg in 1964 when my plants went to the RHS Garden at Wisley. On my leaving Strasbourg in 1970 the RHS kindly provided me with offsets to resume breeding, and I began a worldwide search for named clones. This resulted in several hundred 'names' including almost all of the latest Exbury breeding.

With this base I resumed work and continued until 1995. My breeding greatly extended the range of colors available, including notable purples and plants with a pronounced white 'star', and also improved the form. It was based upon a very limited number of selected plants, mostly of late Exbury origin. In later years I used plants of my own breeding and naming almost to the exclusion of earlier material. All clones not used for breeding were discarded.

As I was getting very old and did not wish to see my work lost, and as Exbury expressed a desire to resume breeding, I then sold the entire program to them. A friend visiting the Exbury *Nerines* in bloom this year who had also visited the National Collection, said that he would have been impressed with the latter if he had not previously seen the Exbury plants which seemed to be a long advance. This appeared to confirm my hope that they constituted a big improvement upon what had gone before.

A copy of my databases, which recorded every cross made or attempted with the results, is deposited at the Lindley Library of the RHS, and can be supplied by me on line if required. My address is ps@vico.to

In Holland substantial attempts have been made to raise *Nerines* which combine the ease of cultiva-

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tion of *N. bowdenii*, which can be grown in the open ground in Western Europe, with the extraordinary colors and beautiful form of the *Sarniensis* hybrids which require a mild winter and a dry summer rest. Other breeders have tried this *sarniensis-bowdenii* cross, but so far as I am aware it has never given any significant results

The extraordinary beauty of *N. sarniensis* hybrids, and particularly the scintillation which they display in direct light - gold flecks in the

scarlets and silver in the pinks and whites - which results from the crystalline structure of the petals, has attracted many of the world's leading plantsmen.

The cultivation of these plants is simple, but they have certain requirements which are easy to supply but which must be met if success is to be achieved. These are:

1. plenty of water from growth in September to the withering of the leaves in May, and thereafter an almost dry rest until growth begins again,

2. a winter growing temperature which will not fall below freezing and which will not rise above about 14C (55F), and

3. plenty of air and light while in growth.

No amount of heat will harm them when at rest.



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ratings. If there is no evidence to the contrary, they tend rightly enough to rate the hardiness zone as equivalent to the zone of their natural range in the wild. This is often not the practical limit to their hardiness, as the many bulbs from Asia Minor and the Middle East demonstrate by surviving easily in zone 5 and even into zone 4.

At the other extreme are the catalogs of many of the mass marketers of bulbs. They tend to rate everything as hardy in zones 4 through 10. These might be termed the "optimistic" hardiness ratings.

Defining Hardiness

We will disqualify any bulb that must be dug up for part of the year.

Survives: Let us take this to mean that the bulb sends up at least foliage for several years after planting. This is minimal hardiness, as far as I'm concerned. It ignores pests, diseases, and weather damage as long as the plant is still there and sends a bit of foliage up each year.

Blooms: This is the meat of our passion in most cases — the flowers our bulbs produce. A blooming bulb is doing more than just surviving.

Grows: If the plant not only survives and blooms, but also increases year by year, this is the apex of hardiness.

Special conditions: If you can plant a bulb in just about any location in your garden and have it thrive, it probably does not require special conditions to be hardy. On the other hand, we can coax many plants to perform as hardy if we cater to some of their particular cultural needs.

The commonest need is for selective availability of water at different times of the year. Very free drainage or planting in bog conditions are other aspects of the water question. Another aspect, cold-hardiness, may require that we plant bulbs deeper than normal and/or mulch to encourage borderline varieties to perform as hardy in our climates.

Climate

Finally, we must look at where the bulb is to be grown, in which climate zone it is to survive. This is where the discussion of hardiness becomes particularized. We want to know what will be hardy right here, where we live and garden. In my case, this is central Indiana, in USDA climate zone 5. I worry about plants which cannot take our cold, frozen ground in the winter, or which need a dry period when we are getting our usual 39 inches (1000mm) of rainfall annually.

You may live elsewhere in the world, with a totally different climate. You are going to be interested in what is hardy for you. If you live in a hot, wet area, you will be concerned about the heat-hardiness of bulbs you might grow. You will also be concerned about any possible requirements of the bulb for chilling to end annual dormancy.

Some of us go to great lengths to grow and bloom bulbs from far out of our climate zones, but digging a bulb every year fails my definition of hardiness. On the other hand, planting in a raised bed for drainage, or mulching to protect from cold or heat are reasonable measures if they allow the bulb to survive year round in the ground.

To estimate heat tolerance, in North America we can use the American Horticultural Society Heat Zone map which was recently published. This type of reference would make climate zone numbers for plants much more useful. Plants that normally grow in mild or maritime climates are as likely to be killed by hot summer weather as by sub-freezing winter temperatures. We can help ourselves by checking into our own Heat Zone.

What Can We Do

We can check these things out for ourselves, and we can compare notes. By assuming that the real hardiness lies somewhere between the conservative ratings in the responsible reference books and the wild claims in the mass-market catalogs, we can try out new bulbs each season. We should test the limits of hardiness of bulbs wherever we can. In the cold climates, try bulbs rated for one or two zones warmer. In hot climates, try bulbs rated one or two zones cooler. If we keep and share notes, we will eventually build up a significant library of information on what is really hardy and where it will grow.

To facilitate sharing this information, I have started a simple database for managing the information that we collect. I would like to encourage everyone who grows bulbs in the ground to contribute to this body of knowledge. A number of IBS members have started keeping and sharing their records, based on extensive discussions in the Internet Bulb Forum. Please contact me if you are interested in participating.

Continued from page 4

ing, and follows a good system: Description, where all parts of the plant are described, Distribution and biology (which is self explanatory), followed by Diagnosis and relationships giving the reasons why a species is different from closely related species, and last but by no means least History details when first collected, by whom and other interesting facts.

The majority of the species are beautifully illustrated with the colored drawings, showing (if applicable) variations encountered within the species. The colored illustrations are grouped in the center of the book and truly are fine botanical paintings.

Obviously Gladiolus in Southern Africa occupied much of the authors' time. It was time well spent. All those interested in *Gladiolus*, from the enthusiastic gardener to the specialist grower, should be grateful to Peter Goldblatt and John Manning for accomplishing much, and contributing in such a pleasant way, to our increased knowledge of one of the great genera of the plant world.

Gladiolus of Southern Africa is available from Timber Press: 133 SW Second Av, Portland, OR 97204, 1-800-327-5680, www.timberpress.com, or from your local bookseller.

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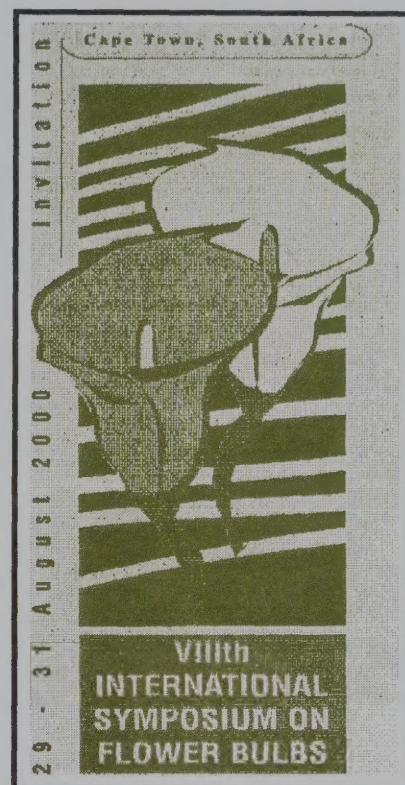
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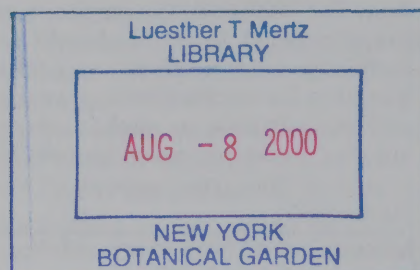


CAPE TOWN HOSTS 8TH INTERNATIONAL SYMPOSIUM ON FLOWER BULBS IN 2000

The Flower Bulb Working Group of the International Society for Horticultural Science (ISHS) and the International Bulb Society have jointly issued an invitation to "all bulb growers, researchers, enthusiasts and conservationists" to participate in the 8th International Symposium on Flower Bulbs, August 29-31, 2000.

The three days of major addresses, oral presentations and poster sessions will cover such topics as: Selection, breeding and genetics; Biotechnology; Ecology, conservation and taxonomy; Marketing; Growth, development and flowering; and Plant protection. Special pre- and post-symposium tours are also available to take advantage of the early spring floral displays in the Cape and fynbos, Namaqualand, and Kruger National Park.

For more information, contact:
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